

# Ethanol Blends and Benefits

## What Ethanol Brings to Our Transportation Mix

Green the Fleet!

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# What is ethanol?



- Alcohol (ethyl alcohol) neutral spirit distilled from either grain or other substances (sugar, biomass, beverage wastes, food production byproducts)
- Drinking vs. Driving? Different taxation and regulation

# Short Stats of Ethanol Production

- How many gallons of ethanol can a bushel produce? **2.8 gallons**
- One bushel of corn (56 pounds) provides: 31.5 lbs. of starch or 33 lbs. of sweetener or 2.8 gal. of fuel ethanol or
- 17.5 lbs. of distillers dried grains with solubles\*
- 13.5 lbs. of gluten feed\*\*
- 2.6 lbs. of gluten meal\*\* and
- 1.5 lbs. of corn oil\*\*
- Data from NCGA:  
[http://www.ncga.com/uploads/useruploads/woc\\_2012.pdf](http://www.ncga.com/uploads/useruploads/woc_2012.pdf)

# Why is ethanol important?

- Lowers dependence on foreign oil (E10 means 10% of that mix does not come from unfriendly countries)
- Is truly an “American” industry which creates large number of domestic jobs
- Improves air quality which is why it has been added to gasoline in the first place
- US produced 13.6 billion gallons in 2010 and 13.9 in 2011 (RFA Industry Statistics 2010 and US Energy Information Administration monthly reporting records 2011)

# What blends are we talking about?

- E10- found in most standard gasoline
- E85- common in the midwest and parts of New York and PA- five stations listed in Mass
- Two on deck for New Hampshire (one approved by DEC)
- E15- coming soon?
- E20 or E30 (USDA agrees)



# Why Dispensers of Tweenie Blends like E15, E20?

- Helps meet Renewable Fuel Standard
- Technically E15 can be used in standard autos of any sort for model years 2001 and newer. Was approved by EPA but oil companies are fighting it
- E20-E30 helps get the “sweet spot” for mpg in flexible fuel vehicles

# Recent Ethanol Statistics

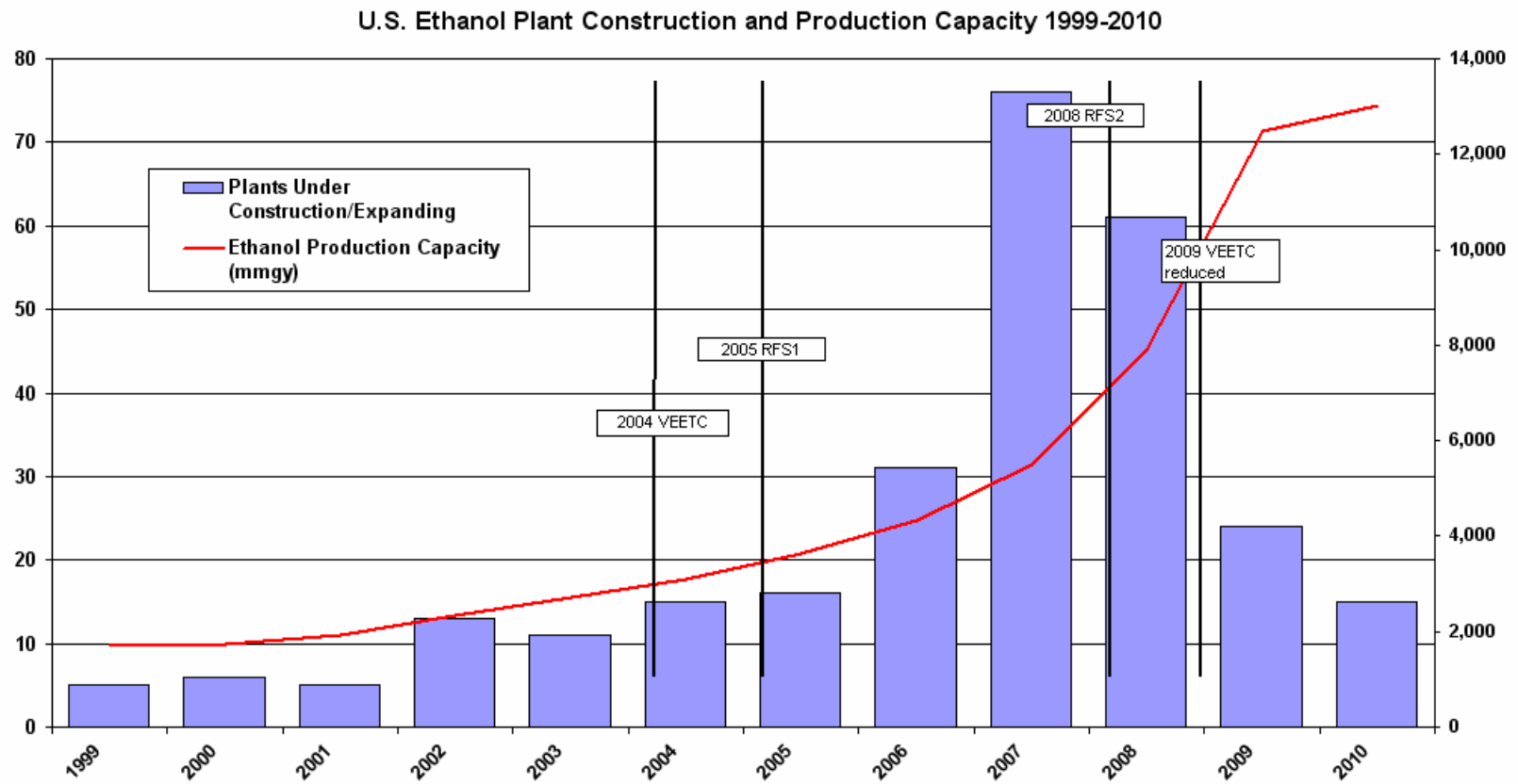
(source- Bloomberg Businessweek 5/25/12)

- 919,000 barrels per day production
- Conventional gasoline blended with ethanol 5.39 million barrels/day
- Price-  
\$2.135/gallon on Chicago Board of Trade



Plant in Fulton, NY with unit train of tank cars

(Photo credit: Associated Press)



## Effects of Legislation and Tax Credit loss



# Ethanol's Effect on Gas Prices and Supply?

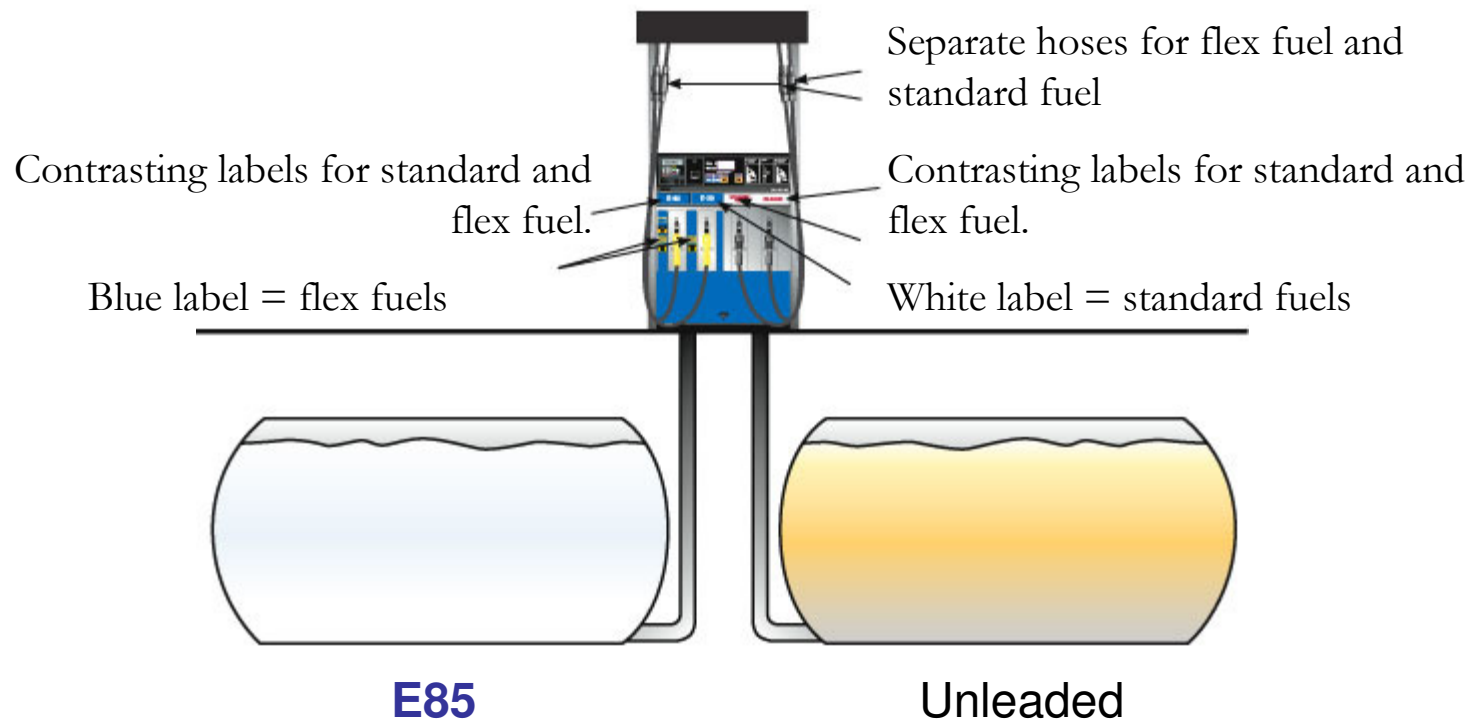
- Reduction in Price of gasoline by \$1.09 per gallon in 2011
- Reduction of \$0.89/gallon in 2010
- 2000-2011 average reduction of \$0.29/gallon
- Average reduction of American household gasoline spending of \$340/year since 2000, and \$1,200 in 2011

Source: The Impact of Ethanol on US and Regional Gasoline Markets- an update to 2012, Xiaodong Du and Dermot J. Hayes, **Center for Agricultural and Rural Development**  
**Iowa State University**

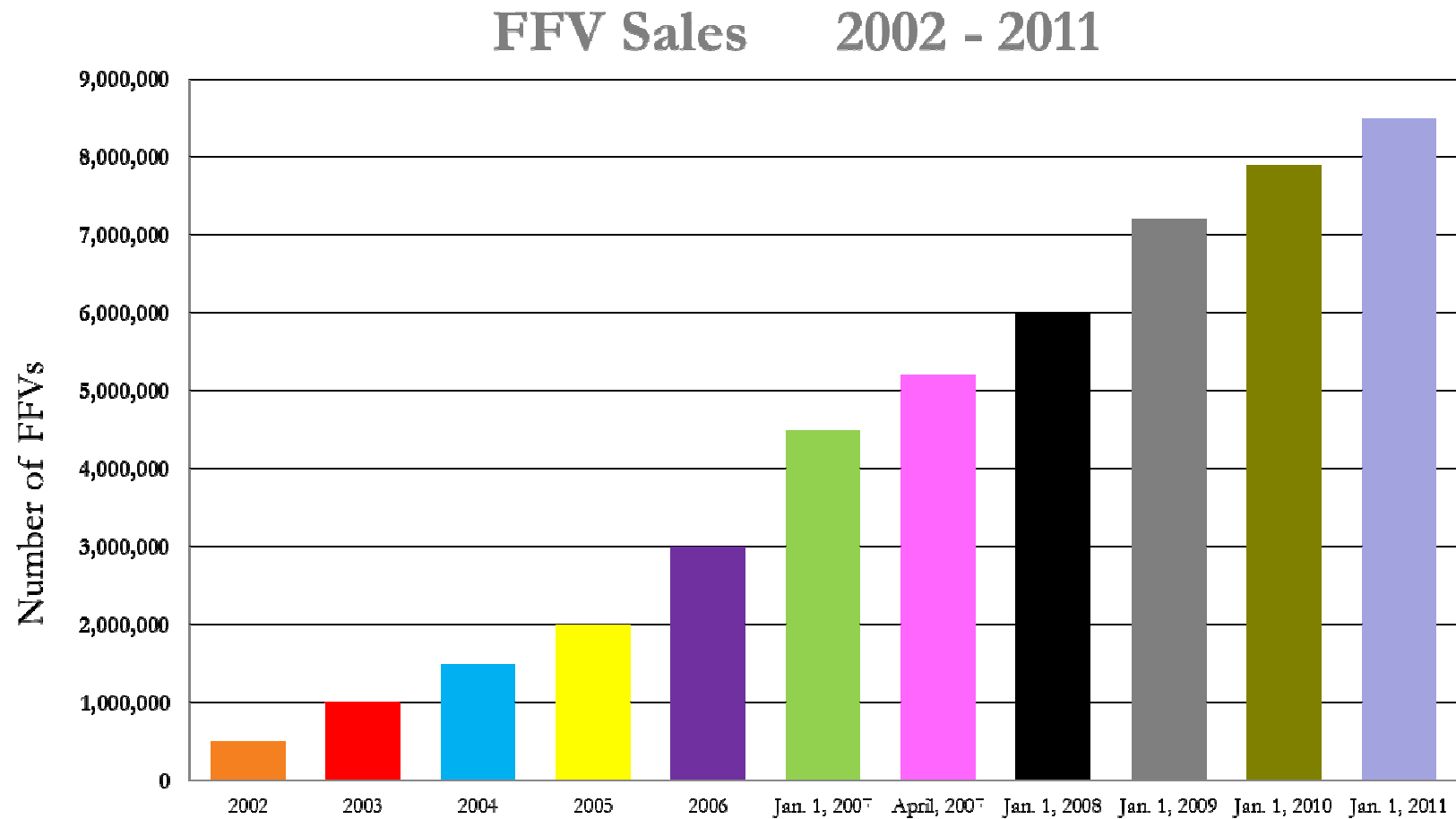
# How exotic is this?

- Standard flexible fuel vehicles (E85 capable) can use the higher blends. OEM's GM, Ford, Chrysler have numerous models
- Don't forget to pick up the list of vehicles we have available today
- EPA has studied impacts of use of E15 for vehicles 2001 and newer and approved its use
- Standard tank installations with ethanol UL rated appurtenances and UL rated dispensers can easily dispense the higher ethanol blends

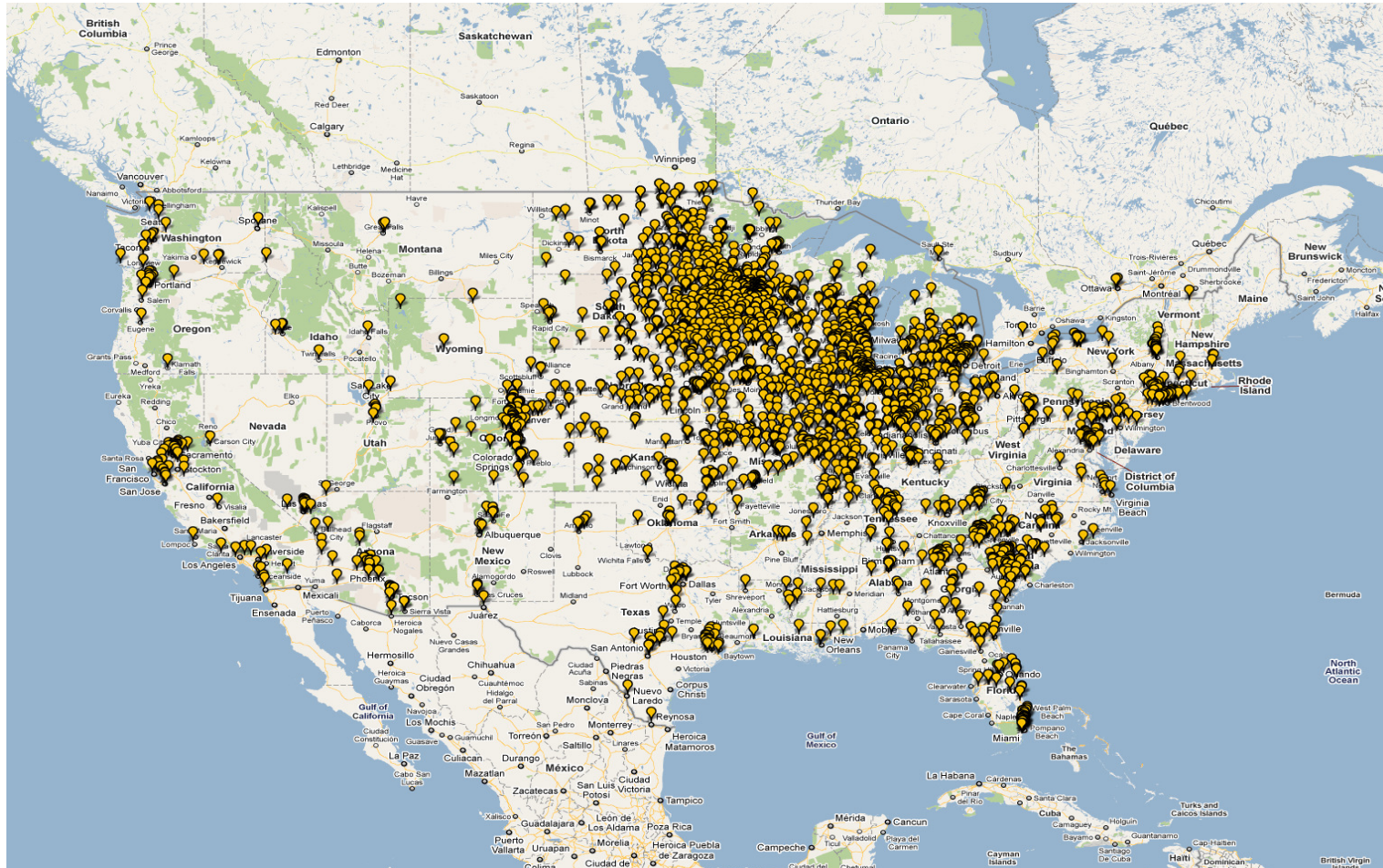
# Example Flexible Fuel Blend Dispenser



# History of Flexible Fuel Vehicle Sales

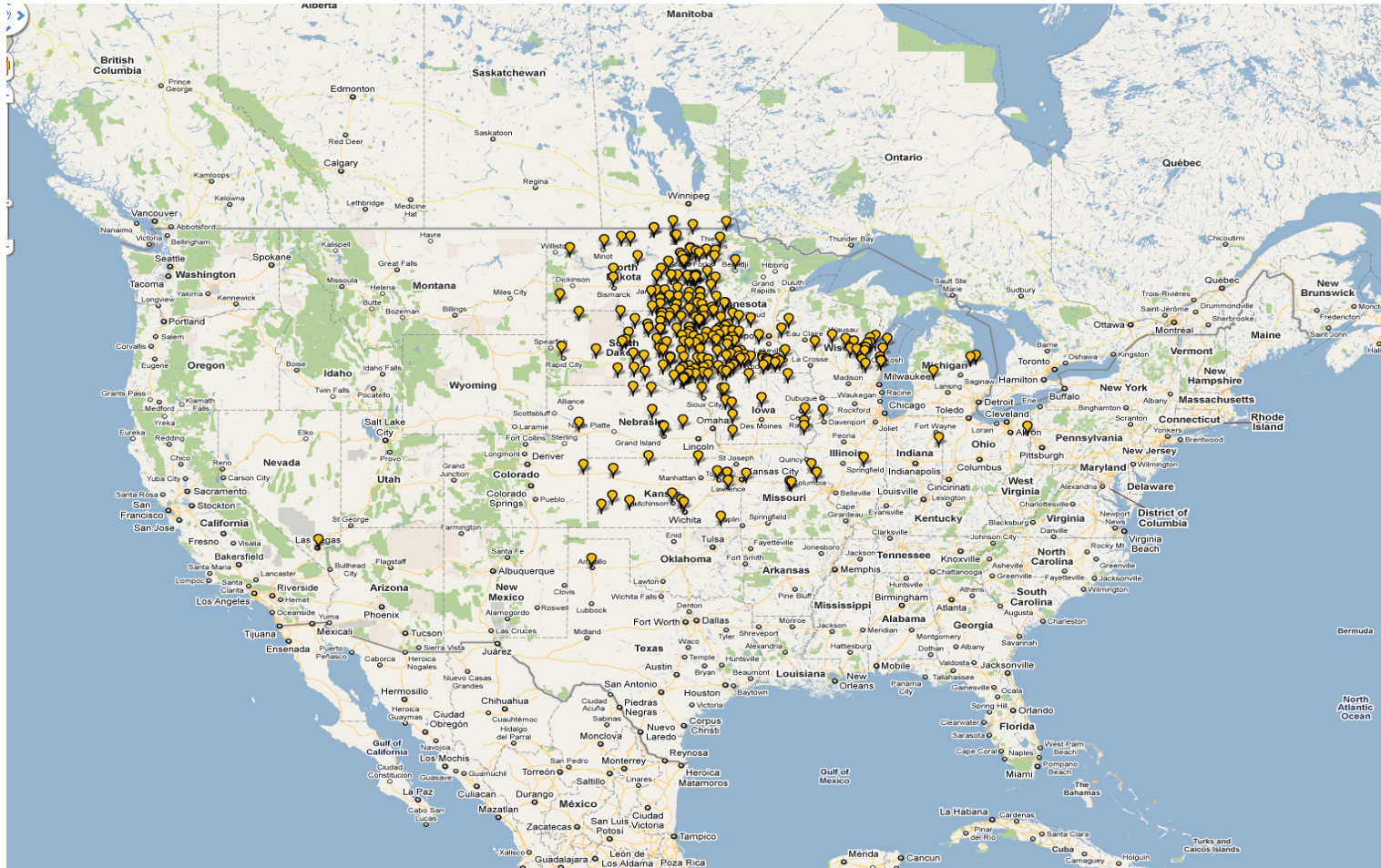


# Location of E85 Stations in US





# Variable Ethanol Blend Dispenser Locations in US



# Ethanol Production, that's a Midwestern thing, no?



- This ethanol plant is located in Medina, NY between Rochester and Buffalo
- 55 Million gallons/year plant
- Created local jobs
- Uses New York State feed corn
- Ancillary business offshoot of carbon dioxide capture and sale

# How to build an infrastructure

- New York State Energy Research and Development Authority undertook long-term, multi year effort to locate fueling stations
- With infrastructure incentives of \$50K-50% match, state tax incentive of 50% (with no cap, but is now expired), and federal tax credit of 30%



# NYSERDA Results



- 78 stations since 2006
- Obviously retailers are making money
- Distributors of fuel have bought in
- Actually in second phase of applications for new grants

# Contact Info



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